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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/705,899	11/13/2003	Joun Ho Lee	8733.275.20-US	6109
30827	7590	05/22/2006	EXAMINER	
MCKENNA LONG & ALDRIDGE LLP 1900 K STREET, NW WASHINGTON, DC 20006			NGUYEN, HOAN C	
			ART UNIT	PAPER NUMBER
			2871	

DATE MAILED: 05/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/705,899	Applicant(s) LEE ET AL.	
	Examiner HOAN C. NGUYEN	Art Unit 2871	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 April 2006.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1 and 24-32 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1 and 24-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/26/2006 has been entered.

Claims 2-23 are cancelled.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1, 24-25 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Asai (US5610736A)** and view of Takeda et al. (US 6724452 B1).

Asai teaches (Fig. 1 and 4-5) teaches a multi-domain liquid crystal display device comprising:

Claim 1:

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- first and second substrates 60/64;
- a liquid crystal layer 74 between the first and second substrates;
- a plurality of data lines 59 for inherently applying a data signal on the first substrate;
- a plurality of gate lines 51 for inherently applying a gate signal, the gate lines crossing the data lines to define a plurality of pixel regions,
- a thin film transistor (TFT) near each crossing of the gate lines and the data lines;
- a common electrode 67 on the second substrate
- pixel electrode 4/10 connected to a drain electrode of the thin film transistor in each pixel region
- an auxiliary electrode line (an elongated electrode 52) electrically connected to at least one of the gate lines in each pixel region, the auxiliary electrode line and the auxiliary electrode line and the multi-domain structure distorting an electric field applied between the common electrode and the pixel electrode to thereby form at least two domains in each pixel region (col. 7 line 42 to col. 8 line 11).

wherein

- the auxiliary electrode line is formed between the pixel electrode and the data line at an outside of the pixel electrode in the pixel region and the auxiliary electrode is overlapped with the pixel electrode.

Claim 24:

- The common electrode includes an opening area at Lsp2.

Claim 32:

- The auxiliary electrode line is elongated from gate line 51, thereby the auxiliary electrode line is formed in the same layer as the gate lines.

However, Asai fails to disclose forming (a) each pixel region has a multi-domain structure which includes a dielectric structure or slit and (b) the a dielectric structure is on the second substrate as claim 25 cited.

Takeda et al. teach (Figs. 12A-C) forming (a) each pixel region has a multi-domain structure which includes a dielectric structure or slit and (b) the a dielectric structure is on the second substrate for realizing the domain regulating means (col. 21 lines 1-3)

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify a multi-domain liquid crystal display device as Asai disclosed with forming (a) each pixel region has a multi-domain structure which includes a dielectric structure or slit and (b) the a dielectric structure is on the second substrate for realizing the domain regulating means as taught by Takada et al. (col. 21 lines 1-3).

2. Claims 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Asai (US5610736A)** and view of Takeda et al. (US 6724452 B1) as applied to claims 1, 24-25 and 32 above, in view of Yamamoto et al. (US5657100A).

Asai fails to disclose a multi-domain liquid crystal display device wherein the liquid crystal layer has a positive dielectric anisotropy (claim 26) or negative dielectric anisotropy (claim 27).

Yamamoto et al. teach a liquid crystal display device wherein the liquid crystal layer has a positive dielectric anisotropy for obtaining high contrast ratio (col. 5 lines 22-31) or the liquid crystal layer has negative dielectric anisotropy for obtaining low contrast ratio (col. 7 lines 14-21).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify a multi-domain liquid crystal display device as Asai al disclosed with the liquid crystal layer has a positive dielectric anisotropy for obtaining high contrast ratio as taught by Yamamoto (col. 5 lines 22-31) or the liquid crystal layer has negative dielectric anisotropy for obtaining low contrast ratio as taught by Yamamoto (col. 7 lines 14-21).

3. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over **Asai (US5610736A)** and view of Takeda et al. (US 6724452 B1) as applied to claims 1, 24-25 and 32 above, in view of Patel (US5841500A).

Asai et al fail to disclose a multi-domain liquid crystal display device with the liquid crystal layer including a chiral dopant.

Patel teaches a multi-domain liquid crystal display device with the liquid crystal layer including a chiral dopant for breaking the symmetry by inducing the twist only in one helical direction, and to thereby avoiding scattering from different domains. This solution is well known in the prior art (col. 3 lines 42-47).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify a multi-domain liquid crystal display device as Asai disclosed with the liquid crystal layer including a chiral dopant for

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breaking the symmetry by inducing the twist only in one helical direction, and to thereby avoiding scattering from different domains as taught by Patel (col. 3 lines 42-47).

4. Claims 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Asai (US5610736A)** and view of Takeda et al. (US 6724452 B1) as applied to claims 1, 24-25 and 32 above, in view of Takatori et al. (US5796456).

Asai fail to disclose a multi-domain liquid crystal display device with the phase differential film includes a negative uniaxial film (claim 30) or a negative biaxial film (claim 31).

Takatori et al. teach a multi-domain liquid crystal display device with the phase differential film includes a negative uniaxial film (col. 3 lines 61-67) or a negative biaxial film (col. 4 lines 1-16) for widening viewing-angle and increasing contrast ratio (col. 1 lines 5-9 or col. 3 lines 34-43).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify a multi-domain liquid crystal display device as Asai disclosed with a multi-domain liquid crystal display device with the phase differential film includes a negative uniaxial film (col. 3 lines 61-67) or a negative biaxial film (col. 4 lines 1-16) for widening viewing-angle and increasing contrast ratio as taught by Takatori et al. (col. 1 lines 5-9 or col. 3 lines 34-43).



***Conclusion***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to HOAN C. NGUYEN whose telephone number is (571) 272-2296. The examiner can normally be reached on MONDAY-THURSDAY:8:00AM-4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (571) 272-1787. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HOAN C. NGUYEN  
Examiner  
Art Unit 2871

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ANDREW SCHECHTER  
PRIMARY EXAMINER